



# ***AFSPC Corrosion Control Program***

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**For: HQ AFSPC/A4M**

**DSN 692-3021**

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# *Overview*

- **Corrosion Control Areas**
- **Support Activities**
- **On Going Projects**
- **Past Projects**
- **Goals**
- **Summary**



# ***Corrosion Control Areas***

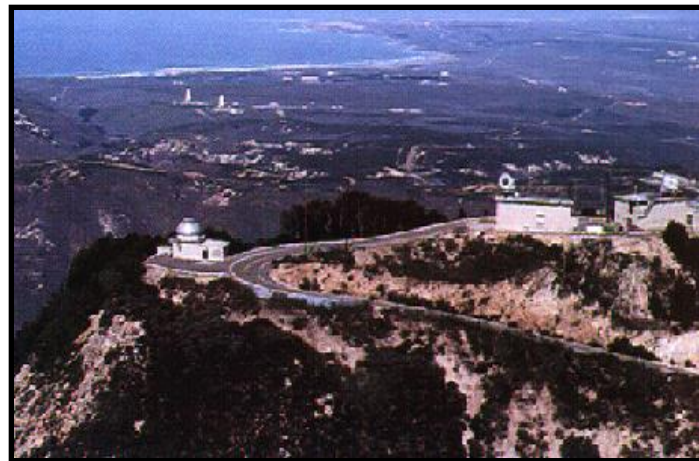
- **Spacelift**
  - **Launch Facilities in Support of:**  
**Atlas V**  
**Delta II and IV**
  - **Communications-Electronics**





# ***Corrosion Control Areas (cont'd)***

- **Space Lift**
  - **Launch Facilities - Cape & Vandenberg**
  - **Support Equipment (SE)**
  - **Aerospace Ground Equipment (AGE)**
  - **Real Property Installed Equipment (RPIE)**





# ***Corrosion Control Areas (cont'd)***

- **Communications**

- **60 Major Sites Worldwide**
- **16 Major Programs - DSP, AFSCN, Range, DSCS, DMSP, BMEWS, GPS, .....**





# *Support Activities*

## • **Spacelift**

- **Launch Base Support Contractors**
- **Launch Vehicle Contractors**







# *Support Activities (cont'd)*

## • **Communications - Electronics**

- **Ranges - Range Technical Services Contractor**
- **DSP, AFSCN, DMSP, DSCS, GPS, BWEWS, and other systems - Blue Suit and contractor maintained**
- **Mobile DLM - Ogden ALC**







# ***On-Going Projects***

- **Pro- active approach to CC**
- **The re-write of AFSPC 21-105**
  - **To bring in line with AFI 20 - 114**
  - **In final write**
- **Correction of problems identified in during the AFSPC Corrosion Site Survey**



# ***On-Going Projects Cont'd***

## **Eastern Range Coatings Support Program**

- Collaborative effort between AFSPC and NASA to field test alternative coating systems for Eastern Range operations**
- Identify only technologies that reduce the environmental impact of coatings operations**
- Potentially seeks to reduce the release of zinc coating by-products to the environment by either**
  - Encapsulation of zinc with more robust barrier coating systems OR**
  - Replacement of zinc coatings with effective treatments for steel which do not require zinc**



# ***On-Going Projects Cont'd***



## **Pedestal Base Prep**

## **Pedestal Placed At Beach Test Site**





# On-Going Projects Cont'd



## MBX Bristle Demo





## ***On-going Projects Cont'd***



**Results after 6 months Beach  
Exposure – 9 out of 12 systems  
showing no damage**



## ***On-Going Projects Cont'd***

### **Vandenberg Coatings Dem/Val**

- Collaborative effort between AFSPC, NASA, and ULA to field test alternative coating systems for launch facilities**
- Goal of the program is to identify, demonstrate, and validate coatings materials that reduce the environmental impact of coatings operations in a variety of locations at active launch sites**
- Identified technologies can either be immediately utilized by corrosion control personnel in space launch organizations or be evaluated further in 16 additional targeted studies designed to develop more tailored solutions for specific missions**





# ***On-Going Projects Cont'd***



## **SLC 2W MST Coating Application**







# Past Projects

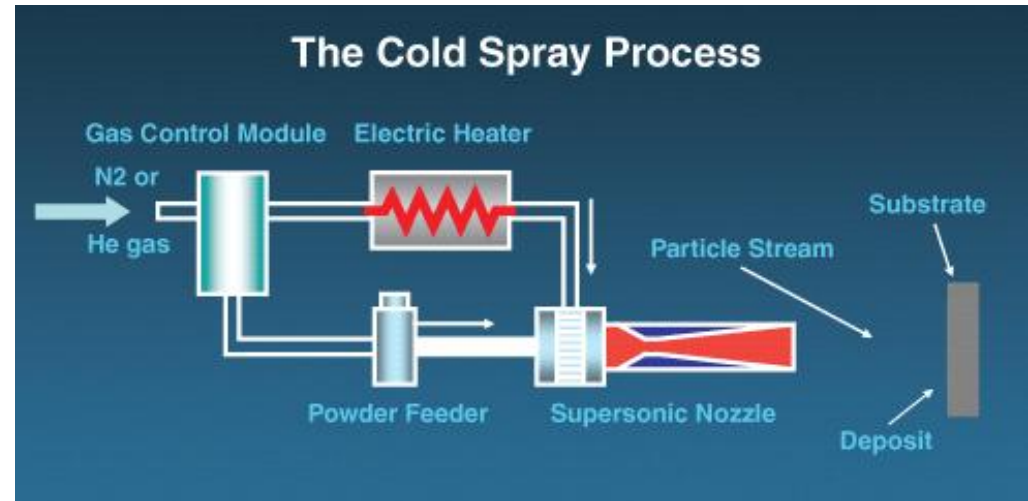
## Metallization (Wire Arc Spray)





# Past Projects Cont'd

## Cold Spray



## Advantages

Low temperature

Retains composition of particles

Eliminates solidification stress, can produce thicker coatings

Very little oxidation

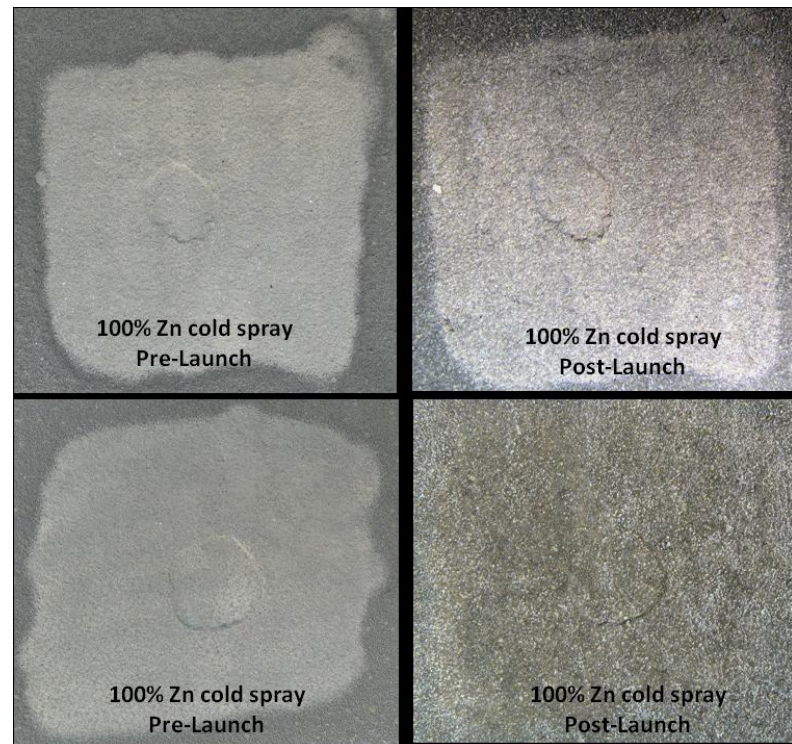


# Past Projects Cont'd

## Pre Launch



## Post Launch





# Goals

- **Increase visibility of corrosion control efforts on AFSPC spacelift and communications- electronic systems**
  - **Lowering cost of corrosion**
  - **Increased customer feedback and involvement**
  - **Improved SPD and SSM support and communications**
  - **Active player in the funding process**



# *Summary*

- **Corrosion Areas**
- **Support Activities**
- **On Going Projects**
- **Past Projects**
- **Goals**



# QUESTIONS?